DOL 20R

capacitive sensor

For other language variants of this document we refer to www.dol-sensors.com or your local dealer.

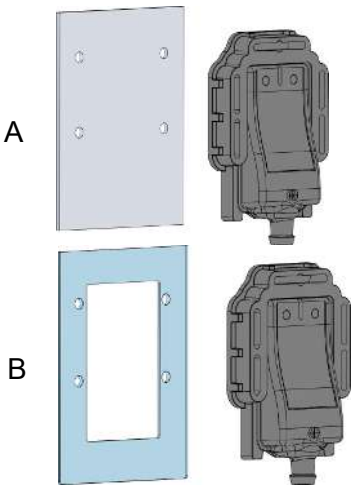
1 Product description

DOL 20R is a capacitive sensor for detection of loose and solid materials.

The sensor has a 5-way connection, power supply and a potential-free relay with NC and NO outputs.

The product is intended for contactor operation, but will be well suited for a number of other agricultural and industrial applications.

2 Mounting guide



A. Measurement through plastic material:

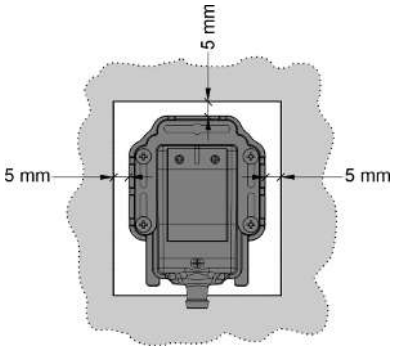
The sensor with mounting clip can be used for plastic types with a minimum of moisture absorption.

B. Measurement in recessed holes:

Mounting clips can be mounted outside the hole.

Fit the sensor so that it is protected from the build-up of dust and the impact of water on the detection area of the sensor, including condensation.

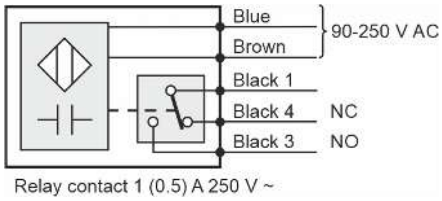
If there is significant wear, the sensor should be mounted behind a wear plate made of a suitable plastic material.



The sensor is not side sensitive, but to avoid incorrect detection as a result of uncertainty with regard to mounting, it is best to keep the sensor away from any metal components, see the dimensions in figure
(5 mm gap).

3 Installation guide

Installation, servicing and troubleshooting of all electrical equipment must be carried out by qualified personnel in compliance with the applicable national and international standard EN 60204-1 and any other EU standards that are applicable in Europe.



The sensor must be connected as per the diagram

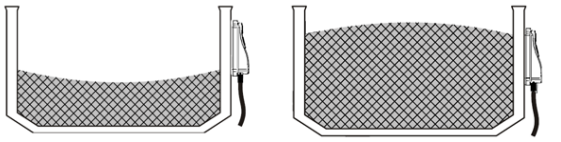
LED indication	Sensor status
LED OFF	Relay in default position (NO) - output ON
LED flashing	Relay in default position and delay running

LED indication	Sensor status
LED ON	Relay activated (NC) – output OFF

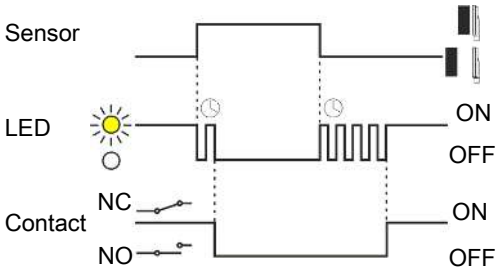
4 User Guide

When there is material in front of the sensor, the output is in the reference position NO. When the material disappears, the timer, starts, and the output will change to NCafter the set delay.
The status of the sensor is indicated with a yellow LED.

The sensor sensitivity and delayed disconnection can be adjusted on two trimmers.



Relay activated (NC) Relay in default position (NO)



Delayed disconnection:

fixed delay *or* delay can be adjusted on the trimmer.

Delayed connection:

fixed delay *or* delay can be adjusted on the trimmer.

Sensitivity:

fixed distance *or* Distance can be adjusted on the trimmer.

MaxRun-timer:

DOL 20R Settings on the trimmer: Off, Period 1, Period 2

5 Maintenance

If the sensor is located in a particularly dirty environment, it may be necessary to clean the area around the sensor.

Otherwise, no additional maintenance is required.

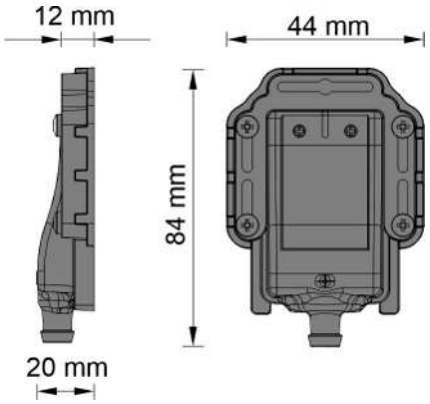
6 Technical data

Electrical		
Rated voltage (Ue)	V AC	90-250
Frequency	Hz	50-60
Consumption (max.)	W, 230 V AC	0.9
Rated relay current at 250 V AC	A RMS A RMS	0.5, Inductive 1, Resistive
Time delay, start-up	ms	< 300
Time delay OFF	s	0-600*
Time delay ON	s	1*
Indication for output ON (if installed)		Yellow LED

Operating distance (Sn) Adjustable	mm in	0-12* 0-0.47*
Hysteresis (H)	%	8-10
Mechanical		
Cable length	m (ft.)	2 (6.5)
Cable dimensions	mm² (AWG)	5x0.5 (5x20)
Frame for mounting sensor		Included
Environment		
Temperature, operation	°C (°F)	-20 - +70 (-4 – 158)
Temperature, storage	°C (°F)	-30 - +80 (-22 – 176)
Protection class	IP (NEMA)	67 (4)
Approvals		CE, C-UL

*Can be modified according to customer needs.

6.1 Dimensions



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